

CLAIMS

1. Process for the manufacture of a ballistic-resistant moulded article in which a stack of monolayers is formed, each monolayer containing unidirectionally oriented reinforcing fibres and at most 30 mass% of a plastic matrix material, the reinforcing fibres being highly-drawn polyethylene fibres, and with the fibre direction in each monolayer being rotated with respect to the fibre direction in an adjacent monolayer, the stack then being compressed at elevated temperature at a given compression pressure, characterized in that the plastic matrix material has a 100% modulus of at least 3 MPa and the stack is compressed at a pressure of more than 25 MPa and a temperature between 125 and 150°C.
- 10 2. Process according to claim 1, wherein the plastic matrix material contains polyurethane.
3. Process according to claim 2, wherein the stack is compressed for at least 60 minutes at a temperature between 125 and 135°C.
- 15 4. Process according to claim 2, wherein compression takes place for 20 minutes at a temperature between 135 and 150°C.
5. Ballistic-resistant moulded article comprising a stack of monolayers, each monolayer containing unidirectionally oriented reinforcing fibres and at most 30 mass% of a plastic matrix material, the reinforcing fibres being highly-drawn polyethylene fibres, and with the fibre direction in each monolayer being rotated with respect to the fibre direction in an adjacent monolayer, characterized in that the plastic matrix material contains polyurethane and the moulded article has an SEA at 80°C against AK47 bullets that is at least 100 J/(kg/m²).
- 20 25 6. Ballistic-resistant moulded article according to claim 5, with an acoustic damping, measured at 0.5 MHz, of less than 20 dB/cm.